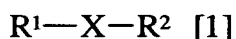


## ABSTRACT

The present invention relates to a method for deuteration of a compound represented by the general formula [1]:



wherein,  $R^1$  represents an alkyl group or an aralkyl group, which may have a carbon-carbon double bond and/or triple bond;  $R^2$  represents an alkyl group which may have a carbon-carbon double bond and/or triple bond, an aryl group, an aralkyl group, an alkoxy group, an aryloxy group or a hydroxyl group; X represents a carbonyl group or a hydroxymethylene group;  $R^1$  and  $R^2$  may form an alicyclic ring together with a carbon atom contained in X; provided that  $R^2$  represents an alkyl group which may have a carbon-carbon double bond and/or triple bond, an aryl group or an aralkyl group when X is a hydroxymethylene group,

comprising reacting the compound represented by the general formula [1] with a heavy hydrogen source in the co-presence of an activated catalyst selected from a palladium catalyst, a platinum catalyst, a rhodium catalyst, a ruthenium catalyst, a nickel catalyst and a cobalt catalyst. The method of the present invention can significantly improve working environment because the deuteration, which has been conventionally carried out under severe conditions such as basic condition, can be carried out under neutral condition. Further, even when the compound represented by the general formula [1] is one having a carbon-carbon double bond or triple bond, the method for deuteration of the present invention enables to efficiently carry out objective deuteration without reduction of said double bond or triple bond.